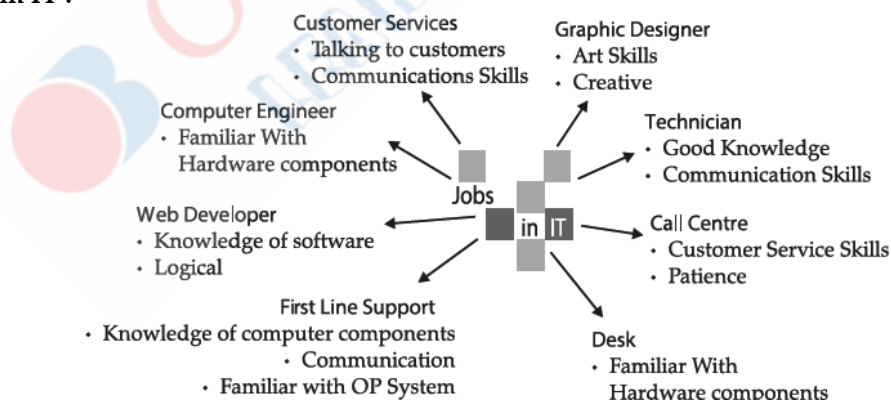# ON TIPS NOTES

NOTE-making is a skill that we use in many walks of life : at school, university and in the world of work. However, accurate note-making requires a thorough understanding of concepts. We, at Oswaal, have tried to encapsulate all the chapters from the given syllabus into the following ON TIPS NOTES. These notes will not only facilitate better understanding of concepts, but will also ensure that each and every concept is taken up and every chapter is covered in totality. So go ahead and use these to your advantage.... go get the **OSWAAL ADVANTAGE!!**

CHAPTER 1 : Computer System

➢ **Computer System :** A computer is an electronic device which processes data based upon the instructions provided and generate the desired output.
➢ The characteristics of computer are Speed, Accuracy, Automation, Endurance, Versatility, Storage, Reduction of processing cost, and Intelligence quotient.
➢ Primary memory of the computer is designed to store data instructions. The data stored in it is erased, when the computer is turned off. It is of two types: RAM and ROM.
➢ **RAM** stands for ''Random Access Memory''. Every time you open a program, it gets loaded from the hard drive into the RAM. RAM is a very high-speed type of memory.
➢ **ROM** stands for ''Read-Only Memory''. ROM is a memory containing hardware instructions like BIOS and CMOS that the computer uses when it boots up, before the system software loads.
➢ A sequence of characters that one must input to gain access to a file, application, or computer system, also called passkey.
➢ Computer System Engineering, also called computer engineering, is a discipline that integrates several fields of electronics engineering and computer science required to develop computer systems.

Careers in IT :

CHAPTER 2 : Memory and Input Output Devices

➢ Memory is the internal storage area, which holds the data and instructions during the processing, and keep it saved for future use.
Computer Memory is classified into two types :
(i) Primary Memory; also known as internal memory.

(ii) Secondary Memory; also known as external memory.

1 byte = 8 bits, 1 kilobyte = 1024 bytes,

1 Megabyte = 1024 kilobyte, 1 Gigabyte = 1024 megabyte

1 Terabyte = 1024 Gigabyte

➢ Floppy disk is a flexible magnetic disk consisting of a circular plastic disk coated with magnetic oxide. This disk is used to store information and programs for future purpose.

➢ Hard disk is a thick little flat thing inside the computer, which can hold 100 times more information than the floppy disk. It is also used to store information and programs for future purpose.

➢ CD is a compact disc, which is used to store data. It provides read only access to large amount of data for future purposes.

➢ DVD is Digital Versatile Disc looks like CD but can store 4.7 GB data and faster than CD.

➢ **Pen/Flash Drive :** It is also called USB flash drive that works on plug and play principle. It is light weight, small, rewritable and portable device that can store up to 1 TB of data and faster than other external storage devices.

➢ Memory Stick is a digital data storage technology with up to 10 times the storage capacity of a 3.5 diskette. It is a removable flash memory card format.

➢ Memory card is a removable flash memory card storage device for recording digital photos.

➢ Input is the data or instructions fed to the computer.

➢ Output is the process of getting computerised result.

➢ Input unit is responsible for input phase i.e., it takes input from the user and forwards it for processing.

➢ Output unit is responsible for the output i.e., it makes available output after processing, to the users.

➢ **Barcode Reader :** An input device used to read barcodes containing coded information about the product.

➢ **Web Camera :** An input device used to capture live images and videos and simultaneously transfer these to a computer.

➢ **Speaker :** An output device used to play sound from an audio or video file stored on a computer.

CHAPTER 3 : Types of Software

➢ Software is a set of programs which helps in performing various operations or direct the computer to process information.

➢ Software is mainly of two types—System software and Application software.

➢ The set of instructions, which co-ordinates the operations of the hardware, is called a **system software**.

➢ The set of instructions or programs, which are designed for specific uses or applications, is called as **application software**.

➢ **Word Processing Software** is used to enter, format, edit and print text documents.

➢ **Spreadsheet Software** is used to enter data in forms of tables and performs mathematical operations on the data.

➢ **Presentation Software** is used to present information in graphical and attractive formats on digital slides for better understanding by the viewer.

➢ **Database management system (DBMS)** is a software system that uses a standard method of cataloging, retrieving and running queries on data. The DBMS manages incoming data, organizes it, and provides ways for the data to be modified or extracted by users or other programs.

➢ A utility program carries out some of the command tasks needed when using a computer.

➢ **Disk Management :** A build in tool of Windows to manage hard disk partitions without rebooting or interrupting the system.

➢ **File/Folder Management :** This utility software of windows help to manage, copy, move, rename, delete, recover and monitor the files and folders present on the computer.

➢ **Virus Scanner/Cleaner** is also known as Antivirus which scans the device to keep it safe from any virus attack. It either deletes the virus or deactivates the virus.

➢ Encryption is the conversion of data into a form, called a cipher text, which cannot be easily understood by unauthorized people.

➢ Decryption is the process of converting encrypted data back into its original form, so that it can be understood.

CHAPTER 4 : Operating System

➢ Operating system can be defined as the software bridge which acts as interface between user and the computer hardware. *Example*: Windows, Unix, Boss, Linux, Android etc.

➢ Loading up of OS files into computer's memory is called booting up.

➢ The functions of OS include, storing and accessing data (storage management), scheduling execution of programs (process management), allocates memory for various processes (memory management) and exchanging data and files between multiple users (extended machine management)

➢ Based on user interaction operating systems are divided into two types :
  1. CUI (Command User Interface)
  2. GUI (Graphical User Interface)

➢ **Real Time OS :** An operating system that provides quick and accurate output with in a prescribed time limit.

➢ **Distributed OS :** An operating system that is used to manage a distributed system, that is, many computer and hardware devices which are independent of each other.

➢ **Multiprogram OS :** The OS that allows CPU to execute more than one program at the same time.

➢ **Multiprocessing OS :** The OS that allows a computer having many CPUs to execute more than one program at the same time.

➢ **UNIX :** Unix OS controls a computer using CUI, which in turn runs an application that provides GUI to easily interact with the computer. It is multiuser and multitasking OS.

➢ **LINUX :** It is Unix like operating system mainly used on servers and mainframe computers as well as supercomputers.

➢ **Windows :** It is GUI based OS having dominance in desktops and laptops.

➢ **Solaris :** It is Unix based OS developed by Sun Microsystems and mainly used on servers for hosting websites.

➢ **BOSS LINUX :** It is Indian made operating system. Its latest version is 6.0 (Anoop), released in August 2015.

➢ **Mobile OS Android :** It is Linux based Open source mobile OS mainly designed for touch screen devices like smart phones and tablets.

CHAPTER 5 : Networking and Multimedia

➢ A group of computers and peripheral devices connected to each other is called a network.

➢ Networking is a concept of implementing tools and tasks for linking computers so that they can share resources over the network.

➢ Internet is called network of networks that connects millions of computers.

➢ LAN is a network within a single building or linking of up to a 5 Kms in size. It is acronym for Local Area Network.

➢ **MAN** spans a larger geographical area between 10 Km and 100 Km, often a city. It is acronym for Metropolitan Area Network.

➢ **WAN** spans wide area often across the metropolitans and countries. It is an acronym for Wide Area Network.

➢ **A hub** is used in a wired network to connect ethernet cables from a number of devices.

➢ **A router** is a device in computer networking that forwards data packets to their destinations based on their addresses.

➢ **Wired Networking Tools :** They are also called guided media that use cables like twisted pair, coaxial cable, ethernet cable, optical fiber to connect computers.

- The most common form of wiring in data communication applications is the twisted pair cable.
- **Ethernet Cable :** The network cable used for high speed connection between network devices like modem, routers etc of LANs and MANs.
- **Wireless Networking Tools :** They are also called unguided media that uses waves instead of cables to transfer data between computers. *For example*: Bluetooth, Infrared, Wi-Fi for short distance communication and Microwaves, Radio waves and Satellite for long distance communication.
- **Satellite :** The satellite transmission of data uses a satellite antenna on earth and uses microwaves to transfer the data between satellite and the stations on the earth
- Content is information that may provide value to the end user in the form of specific knowledge or context.
- Raw facts and figures is data.
- Information is processed data.
- A cloud can be private or public.
- A public cloud sells services to anyone on the internet.
- A private cloud provides a high level of security and privacy to data through firewalls and internal hosting.
- Multimedia is the combination of several media and contents such as audio, video, text, etc. Multimedia finds its application in various areas such as : industry, commercial, entertainment and fine arts, education, engineering industry, mathematical and scientific research, medicine.
- **Electronic images are of two types :** raster image and vector image.
- **Raster file formats are :** BMP, PCX, TIFF, JPEG, GIF, PNG, PSD, CPT.
- **Vector file formats are :** EPS, WMF, AI, CDR, SVG, PLT, CGM.

CHAPTER 6 : Presentation Tool

- Power Point is presentation software in MS Office package of Microsoft Corporation.
- Slide is working area in the presentation software to create, format and modify the content to be appearing on the screen.
- Slide show is an animated presentation that we display on a computer monitor or projection system.
- Slide animations are similar to transitions, but they are applied to individual elements on a single slide.
- The three ways to create a new presentation are : Blank presentation, Design template and Auto content wizard.
- Normal view has three working areas outline tab, slides tab; notes pane and show pane.
- Slide Sorter view helps to view your slides in thumbnail form.
- Normal view displays single slide, outline of presentation and speaker notes area.
- There are two ways to place a slide in the slide design area of the normal view : clicking the slide thumbnail in the slides pane or using the navigator.
- Slide sorter view displays miniature of each slide.
- Handout view is for setting up the layout of your slides for a printed handout.
- A Slide Master is a slide with a specified set of characteristics which is used as the beginning point for creating other slides.
- Background can be applied to a number of elements in impress : the page, a default text area, a graphic object and so on.

CHAPTER 7 : Excel Spreadsheet

- A worksheet is a collection of cells where we keep and manipulate the data. By default, each Excel workbook contains by default three worksheets.
- MS-Excel is a powerful component of a MS-Office and powerful spreadsheet software package by Microsoft Corporation.
- A cell is the intersection of a row and a column.

- Components of MS-Excel are Title bar, Menu bar, Standard toolbar, formatting toolbar, Formula bar, Standard toolbar.
- The Undo command allows you to undo your last 16 actions.
- Excel offers ready formulae and functions for calculations.
- A formula always begins with equal to sign (=).
- Relative reference adjusts the cell reference of the same formula to perform the same relative operation.
- Absolute reference is the cell reference that is not changed when a formula is copied.
- Mixed reference is a combination of absolute and relative reference.
- AutoSum feature add the values above or left to the target or destination cell.
- Cell address is the column row number given to a cell by which it is referred.
- Workbook is a collection of worksheets.
- Range is a contiguous or non-contiguous block of cells.
- AutoFill allows to quickly enter predefined series of data.
- Autocomplete feature of excel automatically input data in the active cell if it's a repeated entry in the column.
- Function is a built-in formula in Excel.
- Constant is a number entered directly into Formula and whose value does not change.
- Reference indicates excel to the location of information you want to use in a formula.

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